



Bioenergy publications

Sara D'Angelo, Nileena Velappan, Flavio Mignone, Claudio Santoro, Daniele Sblattero, Csaba Kiss, and Andrew R.M. Bradbury, "Filtering 'genic' open reading frames from genomic DNA samples for advanced annotation," *BMC Genomics* 12(SUPPL. 1) (2011).

Andrew R. M. Bradbury, Sachdev Sidhu, Stefan Dübel, and John McCafferty, "Beyond natural antibodies: The power of in vitro display technologies," *Nature Biotechnology* 29(3), 245–254 (2011).

Tiziano Gaiotto, Hau B. Nguyen, Jaemyeong Jung, Gnana S. Gnanakaran, Jurgen G. Schmidt, Geoffrey S. Waldo, Andrew M. Bradbury, and Peter M. Goodwin, "A photophysical study of two fluorogen-activating proteins bound to their cognate fluorogens," *Progress in Biomedical Optics and Imaging - Proceedings of SPIE*, 7905 (2011).

Jonas Rosendahl, Zsolt Rónai, Peter Kovacs, Niels Teich, Henning Wittenburg, Matthias Blüher, Michael Stumvoll, Joachim Mössner, Volker Keim, and Andrew R.M. Bradbury, et al., "Sequence analysis of the human tyrosylprotein sulfotransferase-2 gene in subjects with chronic pancreatitis," *Pancreatology* 10(2–3), 165–172 (2010).

Roberto Di Niro, Ana-Marija Sulic, Flavio Mignone, Sara D'Angelo, Roberta Bordoni, Michele Iacono, Roberto Marzari, Tiziano Gaiotto, and Miha Lavric, et al., "Rapid interactome profiling by massive sequencing," *Nucleic Acids Research* 38(9), e110 (2010).

Andrew Bradbury, "The Antibody Society," *mAbs* 2(3), 211 (2010).

Andrew R.M. Bradbury, "The use of phage display in neurobiology," *Current Protocols in Neuroscience* (SUPPL. 51), 5.12.1–5.12.27 (2010).

Nileena Velappan, Hugh E Fisher, Emanuele Pesavento, Leslie Chasteen, Sara D'Angelo, Csaba Kiss, Michelle Longmire, Peter Pavlik, and Andrew R M Bradbury, "A comprehensive analysis of filamentous phage display vectors for cytoplasmic proteins: an analysis with different fluorescent proteins," *Nucleic Acids Research* 38(4), e22 (2010).

Roberto Di Niro, Ana-Marija Sulic, Flavio Mignone, Sara D'Angelo, Roberta Bordoni, Michele Iacono, Roberto Marzari, Tiziano Gaiotto, and Miha Lavric, et al., "Rapid interactome profiling by massive sequencing," *Nucleic Acids Research* 38(9), e110–e110 (2010).

David E. Gloriam, Sandra Orchard, Daniela Bertinetti, Erik Björling, Erik Bongcam-Rudloff, Carl A. K. Borrebaeck, Julie Bourbeillon, Andrew R. M. Bradbury, and Antoine De Daruvar, et al., "A community standard format for the

representation of protein affinity reagents," *Molecular and Cellular Proteomics* 9(1), 1–10 (2010).

Nileena Velappan, Hugh E. Fisher, Emanuele Pesavento, Leslie Chasteen, Sara D'Angelo, Csaba Kiss, Michelle Longmire, Peter Pavlik, and Andrew R. M. Bradbury, "A comprehensive analysis of filamentous phage display vectors for cytoplasmic proteins: An analysis with different fluorescent proteins," *Nucleic Acids Research* 38(4), e22.1–e22.16 (2009).

Andrew Bradbury, "Message from the editors (Protein Engineering, Design and Selection) (2009) 22, 3, (111)," *Protein Engineering, Design and Selection* 22(6), 383 (2009).

Csaba Kiss, Jamshid Temirov, Leslie Chasteen, Geoffrey S. Waldo, and Andrew R.M. Bradbury, "Directed evolution of an extremely stable fluorescent protein," *Protein Engineering, Design and Selection* 22(5), 313–323 (2009).

Andrew Bradbury, "Message from the editors," *Protein Engineering, Design and Selection* 22(3), 111 (2009).

J. Gabbard, N. Velappan, R. Di Niro, J. Schmidt, C.A. Jones, S.M. Tompkins, and A.R.M. Bradbury, "A humanized anti-M2 scFv shows protective in vitro activity against influenza," *Protein Engineering, Design and Selection* 22(3), 189–198 (2009).

Paola Secco, Elena D'Agostini, Roberto Marzari, Marta Licciulli, Roberto Di Niro, Sara D'Angelo, Andrew R.M. Bradbury, Umberto Dianzani, and Claudio Santoro, et al., "Antibody library selection by the β -lactamase protein fragment complementation assay," *Protein Engineering, Design and Selection* 22(3), 149–158 (2009).

Zsolt Rónai, Heiko Witt, Olga Rickards, Giovanni Destro-Bisol, Andrew R.M. Bradbury, and Miklós Sahin-Tóth, "A common African polymorphism abolishes tyrosine sulfation of human anionic trypsinogen (PRSS2)," *Biochemical Journal* 418(1), 155–161 (2009).

Andrew Bradbury, Daniele Sblattero, Roberto Marzari, Louise Rem, and Hennie Hoogenboom, "Using phage display in neurobiology," *Current Protocols in Neuroscience (SUPPL. 47)*, 5.18.1–5.18.28 (2009).

Joanne Ayriss, Rosa Valero, Andrew R M Bradbury, and Peter Pavlik, "Multiplexed flow cytometry: high-throughput screening of single-chain antibodies," *Methods in Molecular Biology* 525, 241–260 (2009).

Jamshid P. Temirov, Andrew R. M. Bradbury, and James H. Werner, "Measuring an antibody affinity distribution molecule by molecule," *Analytical Chemistry* 80(22), 8642–8648 (2008).

N. Velappan, J. Clements, C. Kiss, R. Valero-Aracama, P. Pavlik, and A.R.M. Bradbury, "Fluorescence linked immunosorbant assays using microtiter plates," *Journal of Immunological Methods* 336(2), 135–141 (2008).

M. Dai, J. Temirov, E. Pesavento, C. Kiss, N. Velappan, P. Pavlik, J.H. Werner, and A.R.M. Bradbury, "Using T7 phage display to select GFP-based binders," *Protein Engineering, Design and Selection* 21(7), 413–424 (2008).

Klaus Skaalum Lassen, Andrew R.M. Bradbury, Jens F. Rehfeld, and Niels H.H. Heegaard, "Microscale characterization of the binding specificity and affinity of a monoclonal antisulfotyrosyl IgG antibody," *Electrophoresis* 29(12), 2557–2564 (2008).

Patrick Chain

Olivia U. Mason, Terry C. Hazen, Sharon Borglin, Patrick S G. Chain, Eric A. Dubinsky, Julian L. Fortney, James Han, Hoi-Ying N. Holman, Jenni Hultman, and Regina Lamendella, et al., “Metagenome, metatranscriptome and single-cell sequencing reveal microbial response to Deepwater Horizon oil spill,” ISME Journal 6(9), 1715–1727 (2012).

M.S. Ramirez, G. Xie, S.H. Marshall, K.M. Hujer, P.S.G. Chain, R.A. Bonomo, and M.E. Tolmasky, “Multidrug-resistant (MDR) *Klebsiella pneumoniae* clinical isolates: A zone of high heterogeneity (HZ) as a tool for epidemiological studies,” Clinical Microbiology and Infection 18(7), E254–E258 (2012).

Curtis Huttenhower, Dirk Gevers, Rob Knight, Sahar Abubucker, Jonathan H. Badger, Asif T. Chinwalla, Heather H. Creasy, Ashlee M. Earl, Michael G. Fitzgerald, and Robert S. Fulton, et al., “Structure, function and diversity of the healthy human microbiome,” Nature 486(7402), 207–214 (2012).

Jeffrey B. Kaplan, Chienchi Lo, Gary Xie, Shannon L. Johnson, Patrick S. G. Chain, Robert Donnelly, Scott C. Kachlany, and Nataliya V. Balashova, “Genome sequence of *Kingella kingae* septic arthritis isolate PYKK081,” Journal of Bacteriology 194(11), 3017 (2012).

Ahmet Zeytun, Stephanie A. Malfatti, Lisa M. Vergez, Maria Shin, Emilio Garcia, and Patrick S.G. Chain, “Complete genome sequence of *Francisella philomiragia* ATCC 25017,” Journal of Bacteriology 194(12), 3266–3265 (2012).

Armand E. K. Dichosa, Michael S. Fitzsimons, Chien-Chi Lo, Lea L. Weston, Lara G. Preteska, Jeremy P. Snook, Xiaojing Zhang, Wei Gu, Kim McMurry, and Lance D. Green, et al., “Artificial polyploidy improves bacterial single cell genome recovery,” PLoS ONE 7(5) (2012).

Kaston Leung, Hans Zahn, Timothy Leaver, Kishori M. Konwar, Niels W. Hanson, Antoine P. Pagé, Chien-Chi Lo, Patrick S. Chain, Steven J. Hallam, and Carl L. Hansen, “A programmable droplet-based microfluidic device applied to multiparameter analysis of single microbes and microbial communities,” Proceedings of the National Academy of Sciences of the United States of America 109(20), 7665–7670 (2012).

Manuel Martinez-Garcia, David M. Brazel, Brandon K. Swan, Carol Arnosti, Patrick S. G. Chain, Krista G. Reitenga, Gary Xie, Nicole J. Poulton, Monica Lluesma Gomez, and Dashiell E. D. Masland, et al., “Capturing single cell genomes of active polysaccharide degraders: An unexpected contribution of verrucomicrobia,” PLoS ONE 7(4) (2012).

Blaire Steven, La Verne Gallegos-Graves, Shawn R. Starkenburg, Patrick S. Chain, and Cheryl R. Kuske, “Targeted and shotgun metagenomic approaches provide different descriptions of dryland soil microbial communities in a manipulated field study,” Environmental Microbiology Reports 4(2), 248–256 (2012).

Matthew B. Scholz, Chien-Chi Lo, and Patrick S.G. Chain, “Next generation sequencing and bioinformatic bottlenecks: The current state of metagenomic data analysis,” Current Opinion in Biotechnology 23(1), 9–15 (2012).

Nicholas Beckloff, Shawn Starkenburg, Tracey Freitas, and Patrick Chain, "Bacterial genome annotation," *Methods in Molecular Biology* 881, 471–503 (2012).

Bin Hu, Gary Xie, Chien-Chi Lo, Shawn R. Starkenburg, and Patrick S. G. Chain, "Pathogen comparative genomics in the next-generation sequencing era: Genome alignments, pangenomics and metagenomics," *Briefings in Functional Genomics* 10(6), 322–333 (2011).

Shawn R. Starkenburg, Krista G. Reitenga, Tracey Freitas, Shannon Johnson, Patrick S. G. Chain, Ferran Garcia-Piche, and Cheryl R. Kuske, "Genome of the cyanobacterium *Microcoleus vaginatus* FGP-2, a photosynthetic ecosystem engineer of arid land soil biocrusts worldwide," *Journal of Bacteriology* 193(17), 4569–4570 (2011).

Patrick S.G. Chain, Dorothy M. Lang, Diego J. Comerci, Stephanie A. Malfatti, Lisa M. Vergez, Maria Shin, Rodolfo A. Ugalde, Emilio Garcia, and Marcelo E. Tolmasky, "Genome of *Ochrobactrum anthropi* ATCC 49188 T, a versatile opportunistic pathogen and symbiont of several eukaryotic hosts," *Journal of Bacteriology* 193(16), 4274–4275 (2011).

Alexandra Weilharter, Birgit Mitter, Maria V. Shin, Patrick S.G. Chain, Jerzy Nowak, and Angela Sessitsch, "Complete genome sequence of the plant growth-promoting endophyte *burkholderia phytofirmans* strain PsJN," *Journal of Bacteriology* 193(13), 3383–3384 (2011).

Pelin Yilmaz, Renzo Kottmann, Dawn Field, Rob Knight, James R. Cole, Linda Amaral-Zettler, Jack A. Gilbert, Ilene Karsch-Mizrachi, Anjanette Johnston, and Guy Cochrane, et al., "Minimum information about a marker gene sequence (MIMARKS) and minimum information about any (x) sequence (MIxS) specifications," *Nature Biotechnology* 29(5), 415–420 (2011).

Mark A. Campbell, Patrick S.G. Chain, Hongyue Dang, Amal F. El Sheikh, Jeanette M. Norton, Naomi L. Ward, Bess B. Ward, and Martin G. Klotz, "Nitrosococcus watsonii sp. nov., a new species of marine obligate ammonia-oxidizing bacteria that is not omnipresent in the world's oceans: Calls to validate the names 'Nitrosococcus halophilus' and 'Nitrosomonas mobilis,'" *FEMS Microbiology Ecology* 76(1), 39–48 (2011).

Mark W. J. van Passel, Ravi Kant, Erwin G. Zoetendal, Caroline M. Plugge, Muriel Derrien, Stephanie A. Malfatti, Patrick S. G. Chain, Tanja Woyke, Airi Palva, and Willem M. de Vos, et al., "The genome of *Akkermansia muciniphila*, a dedicated intestinal mucin degrader, and its use in exploring intestinal metagenomes," *PLoS ONE* 6(3) (2011).

Patrick S.G. Chain, Gary Xie, Shawn R. Starkenburg, Matthew B. Scholz, Nicholas Beckloff, Chien-Chi Lo, Karen W. Davenport, Krista G. Reitenga, Hajnalka E. Daligault, and J. Chris Detter, et al., "Genomics for key players in the N cycle: From guinea pigs to the next frontier," *Methods in Enzymology* 496, 289–318 (2011).

G. Xie, P.S.G. Chain, C.-C. Lo, K.-L. Liu, J. Gans, J. Merritt, and F. Qi, "Community and gene composition of a human dental plaque microbiota obtained by metagenomic sequencing," *Molecular Oral Microbiology* 25(6), 391–405 (2010).

- C.B. Walker, J.R. De La Torre, M.G. Klotz, H. Urakawa, N. Pinel, D.J. Arp, C. Brochier-Armanet, P.S.G. Chain, P.P. Chan, and A. Gollabgir, et al., "Nitrosopumilus maritimus genome reveals unique mechanisms for nitrification and autotrophy in globally distributed marine crenarchaea," *Proceedings of the National Academy of Sciences of the United States of America* 107(19), 8818–8823 (2010).
- Héctor L. Ayala-Del-Río, Patrick S. Chain, Joseph J. Grzymski, Monica A. Ponder, Natalia Ivanova, Peter W. Bergholz, Genevive Di Bartolo, Loren Hauser, Miriam Land, and Corien Bakermans, et al., "The genome sequence of psychrobacter arcticus 273-4, a psychroactive siberian permafrost bacterium, reveals mechanisms for adaptation to low-temperature growth," *Applied and Environmental Microbiology* 76(7), 2304–2312 (2010).
- Anna Kielak, Jorge L.M. Rodrigues, Eiko E. Kuramae, Patrick S.G. Chain, Johannes A. Van Veen, and George A. Kowalchuk, "Phylogenetic and metagenomic analysis of Verrucomicrobia in former agricultural grassland soil," *FEMS Microbiology Ecology* 71(1), 23–33 (2010).
- Elisabeth Saunders, Brian J. Tindall, Regine Fähnrich, Alla Lapidus, Alex Copeland, Tijana Glavina del Rio, Susan Lucas, Feng Chen, Hope Tice, and Jan-Fang Cheng, et al., "Complete genome sequence of Haloterrigena turkmenica type strain (4k T)," *Standards in Genomic Sciences* 2(1), 107–116 (2010).
- Gregory J. Hather, Winston Haynes, Roger Higdon, Natali Kolker, Elizabeth A. Stewart, Peter Arzberger, Patrick Chain, Dawn Field, B. Robert Franz, and Biaoyang Lin, et al., "The United States of America and scientific research," *PLoS ONE* 5(8) (2010).
- Tijana Glavina del Rio, Birte Abt, Stefan Spring, Alla Lapidus, Matt Nolan, Hope Tice, Alex Copeland, Jan-Fang Cheng, Feng Chen, and David Bruce, et al., "Complete genome sequence of Chitinophaga pinensis type strain (UQM 2034T)," *Standards in Genomic Sciences* 2(1), 87–95 (2010).
- Natalia Ivanova, Johannes Sikorski, Marlen Jando, Alla Lapidus, Matt Nolan, Susan Lucas, Tijana Glavina del Rio, Hope Tice, Alex Copeland, and Jan-Fang Cheng, et al., "Complete genome sequence of Gordonia bronchialis type strain (3410T)," *Standards in Genomic Sciences* 2(1), 19–28 (2010).
- Sabine Gronow, Sabine Welnitz, Alla Lapidus, Matt Nolan, Natalia Ivanova, Tijana Glavina del Rio, Alex Copeland, Feng Chen, Hope Tice, and Sam Pitluck, et al., "Complete genome sequence of Veillonella parvula type strain (Te3T)," *Standards in Genomic Sciences* 2(1), 57–65 (2010).
- Wayne Reeve, Graham O'Hara, Patrick Chain, Julie Ardley, Lambert Bräu, Kemanthi Nandesena, Ravi Tiwari, Stephanie Malfatti, Hajnalka Kiss, and Alla Lapidus, et al., "Complete genome sequence of Rhizobium leguminosarum bv trifolii strain WSM2304, an effective microsymbiont of the South American clover *Trifolium polymorphum*," *Standards in Genomic Sciences* 2(1), 66–76 (2010).
- Wayne Reeve, Graham O'Hara, Patrick Chain, Julie Ardley, Lambert Bräu, Kemanthi Nandesena, Ravi Tiwari, Alex Copeland, Matt Nolan, and Cliff Han, et al., "Complete genome sequence of rhizobium leguminosarum bv. trifolii strain WSM1325, an effective microsymbiont of annual Mediterranean clovers," *Standards in Genomic Sciences* 2(3), 347–356 (2010).

Jim Coons

S.W. Rutherford and J.E. Coons, "Water sorption in silicone foam containing diatomaceous earth," *Journal of Colloid and Interface Science* 306(2), 228–240 (2007).

J.E. Coons, M.D. McKay, and M.S. Hamada, "A Bayesian analysis of the compression set and stress-strain behavior in a thermally aged silicone foam," *Polymer Degradation and Stability* 91(8), 1824–1836 (2006).

S.W. Rutherford, R.E. Kurtz, M.G. Smith, K.G. Honnell, and J.E. Coons, "Measurement and correlation of sorption and transport properties of ethylene-propylene-diene monomer (EPDM) elastomers," *Journal of Membrane Science* 263(1–2), 57–65 (2005).

J.E. Coons, P.J. Halley, S.A. McGlashan, and T. Tran-Cong, "Scaling laws for the critical rupture thickness of common thin films," *Colloids and Surfaces A: Physicochemical and Engineering Aspects* 263(1–3 SPEC. ISS.), 258–266 (2005).

J.E. Coons, P.J. Halley, S.A. McGlashan, and T. Tran-Cong, "Bounding film drainage in common thin films," *Colloids and Surfaces A: Physicochemical and Engineering Aspects* 263(1–3 SPEC. ISS.), 197–204 (2005).

Jim Coons, P. Halley, S. McGlashan, and T. Tran-Cong, "Bounding the stability and rupture condition of emulsion and foam films," *Chemical Engineering Research and Design* 83(7 A), 915–925 (2005).

S.W. Rutherford and J.E. Coons, "Adsorption equilibrium and transport kinetics for a range of probe gases in Takeda 3A carbon molecular sieve," *Journal of Colloid and Interface Science* 284(2), 432–439 (2005).

Taraka Dale

Taraka Dale, Richard P. Fahlman, Mikolaj Olejniczak, and Olke C. Uhlenbeck, "Specificity of the ribosomal A site for aminoacyl-tRNAs," *Nucleic Acids Research* 37(4), 1202–1210 (2009).

Jeffrey W. Habig, Taraka Dale, and Brenda L. Bass, "miRNA Editing—We Should Have Inosine This Coming," *Molecular Cell* 25(6), 792–793 (2007).

Taraka Dale and Olke C. Uhlenbeck, "Amino acid specificity in translation," *Trends in Biochemical Sciences* 30(12), 659–665 (2005).

Taraka Dale and Olke C. Uhlenbeck, "Binding of misacylated tRNAs to the ribosomal a site," *RNA* 11(11), 1610–1615 (2005).

Mikolaj Olejniczak, Taraka Dale, Richard P. Fahlman, and Olke C. Uhlenbeck, "Idiosyncratic tuning of tRNAs to achieve uniform ribosome binding," *Nature Structural and Molecular Biology* 12(9), 788–793 (2005).

Zoe Fisher

Julian C.-H. Chen, B. Leif Hanson, S. Zoë Fisher, Paul Langan, and Andrey Y. Kovalevsky, "Direct observation of hydrogen atom dynamics and interactions by ultrahigh resolution neutron protein crystallography," *Proceedings of the National Academy of Sciences of the United States of America* 109(38), 15301–15306 (2012).

S. Zoë Fisher, Mayank Aggarwal, Andrey Y. Kovalevsky, David N. Silverman, and Robert McKenna, "Neutron diffraction of acetazolamide-bound human carbonic anhydrase II reveals atomic details of drug binding," *Journal of the American Chemical Society* 134(36), 14726–14729 (2012).

Andrey Kovalevsky, B. Leif Hanson, Sax A. Mason, V. Trevor Forsyth, Zoe Fisher, Marat Mustyakimov, Matthew P. Blakeley, David A. Keen, and Paul Langan, "Inhibition of d-xylose isomerase by polyols: Atomic details by joint X-ray/neutron crystallography," *Acta Crystallographica Section D: Biological Crystallography* 68(9), 1201–1206 (2012).

Andrey Y. Kovalevsky, Hanna Johnson, B. Leif Hanson, Mary Jo Waltman, S. Zoe Fisher, Susan Taylor, and Paul Langan, "Low- and room-temperature X-ray structures of protein kinase A ternary complexes shed new light on its activity," *Acta Crystallographica Section D: Biological Crystallography* 68(7), 854–860 (2012).

Zo Fisher, Christopher D. Boone, Shya Masri Biswas, Balasubramanian Venkatakrishnan, Mayank Aggarwal, Chingkuang Tu, Mavis Agbandje-Mckenna, David Silverman, and Robert McKenna, "Kinetic and structural characterization of thermostabilized mutants of human carbonic anhydrase II," *Protein Engineering, Design and Selection* 25(7), 347–355 (2012).

Julian C.-H. Chen, Zoë Fisher, Andrey Y. Kovalevsky, Marat Mustyakimov, B. Leif Hanson, Vladimir V. Zhurov, and Paul Langan, "Room-temperature ultrahigh-resolution time-of-flight neutron and X-ray diffraction studies of H/D-exchanged crambin," *Acta Crystallographica Section F: Structural Biology and Crystallization Communications* 68(2), 119–123 (2012).

Zoë Fisher, Andrey Y. Kovalevsky, Marat Mustyakimov, David N. Silverman, Robert McKenna, and Paul Langan, "Neutron structure of human carbonic anhydrase II: A hydrogen-bonded water network 'switch' is observed between pH 7.8 and 10.0," *Biochemistry* 50(44), 9421–9423 (2011).

Andrey Y. Kovalevsky, B.L. Hanson, S.A. Mason, T. Yoshida, S.Z. Fisher, M. Mustyakimov, V.T. Forsyth, M.P. Blakeley, D.A. Keen, and Paul Langan, "Identification of the elusive hydronium ion exchanging roles with a proton in an enzyme at lower pH values," *Angewandte Chemie - International Edition* 50(33), 7520–7523 (2011).

Gerwald Jogl, Xiaoping Wang, Sax A. Mason, Andrey Kovalevsky, Marat Mustyakimov, Zöe Fisher, Christina Hoffman, Christoph Kratky, and Paul Langan, "High-resolution neutron crystallographic studies of the hydration of the coenzyme cob(II)alamin," *Acta Crystallographica Section D: Biological Crystallography* 67(6), 584–591 (2011).

Louis M. Lazar, S. Zoë Fisher, Aaron G. Moulin, Andrey Kovalevsky, Walter R.P. Novak, Paul Langan, Gregory A. Petsko, and Dagmar Ringe, "Time-of-flight neutron diffraction study of bovine γ -chymotrypsin at the protein crystallography station," *Acta Crystallographica Section F: Structural Biology and Crystallization Communications* 67(5), 587–590 (2011).

Andrey Y. Kovalevsky, B. Leif Hanson, Sean Seaver, S. Zo Fisher, Marat Mustyakimov, and Paul Langan, "Preliminary joint X-ray and neutron protein crystallographic studies of endoxylanase II from the fungus Trichoderma

longibrachiatum,” *Acta Crystallographica Section F: Structural Biology and Crystallization Communications* 67(2), 283–286 (2011).

B. Schuman, S.Z. Fisher, A. Kovalevsky, S.N. Borisova, M.M. Palcic, L. Coates, P. Langan, and S.V. Evans, “Preliminary joint neutron time-of-flight and X-ray crystallographic study of human ABO(H) blood group A glycosyltransferase,” *Acta Crystallographica Section F: Structural Biology and Crystallization Communications* 67(2), 258–262 (2011).

Paul Langan, S. Gnanakaran, Barbara Evans, Andrey Kovalevsky, Zoe Fisher, Willian Heller, Hugh O’Neill, S.V. Pingali, Brian Davison, and Yoshiharu Nishiyama, et al., “Neutrons for biofuels,” *ACS National Meeting Book of Abstracts* (2011).

Jenny P. Glusker, H.L. Carrell, Andrey Y. Kovalevsky, Leif Hanson, S. Zoe Fisher, Marat Mustyakimov, Sax Mason, Trevor Forsyth, and Paul Langan, “Using neutron protein crystallography to understand enzyme mechanisms,” *Acta Crystallographica Section D: Biological Crystallography* 66(11), 1257–1261 (2010).

S.Z. Fisher, A.Y. Kovalevsky, J. Domsic, M. Mustyakimov, D.N. Silverman, R. McKenna, and P. Langan, “Enzymes for carbon sequestration: Neutron crystallographic studies of carbonic anhydrase,” *Acta Crystallographica Section D: Biological Crystallography* 66(11), 1178–1183 (2010).

Andrey Kovalevsky, Zoe Fisher, Hannah Johnson, Marat Mustyakimov, Mary Jo Waltman, and Paul Langan, “Macromolecular neutron crystallography at the Protein Crystallography Station (PCS),” *Acta Crystallographica Section D: Biological Crystallography* 66(11), 1206–1212 (2010).

Andrey Kovalevsky, Toshiyuki Chatake, Naoya Shibayama, Sam-Yong Park, Takuya Ishikawa, Marat Mustyakimov, S. Zoe Fisher, Paul Langan, and Yukio Morimoto, “Protonation states of histidine and other key residues in deoxy normal human adult hemoglobin by neutron protein crystallography,” *Acta Crystallographica Section D: Biological Crystallography* 66(11), 1144–1152 (2010).

John F. Domsic, Wilton Williams, Suzanne Z. Fisher, Chingkuang Tu, Mavis Agbandje-Mckenna, David N. Silverman, and Robert McKenna, “Structural and kinetic study of the extended active site for proton transfer in human carbonic anhydrase II,” *Biochemistry* 49(30), 6394–6399 (2010).

Andrey Y. Kovalevsky, Leif Hanson, S. Zoe Fisher, Marat Mustyakimov, Sax A. Mason, V. Trevor Forsyth, Matthew P. Blakeley, David. A. Keen, and Trixie Wagner, et al., “Metal Ion Roles and the Movement of Hydrogen during Reaction Catalyzed by D-Xylose Isomerase: A Joint X-Ray and Neutron Diffraction Study,” *Structure* 18(6), 688–699 (2010).

Andrey Y. Kovalevsky, Toshiyuki Chatake, Naoya Shibayama, Sam-Yong Park, Takuya Ishikawa, Marat Mustyakimov, Zoe Fisher, Paul Langan, and Yukio Morimoto, “Direct determination of protonation states of histidine residues in a 2 Å neutron structure of deoxy-human normal adult hemoglobin and implications for the Bohr effect,” *Journal of Molecular Biology* 398(2), 276–291 (2010).

A.Y. Kovalevsky, S. Zoe Fisher, Sean Seaver, Marat Mustyakimov, Narayanasami Sukumar, Paul Langan, Timothy C. Mueser, and B. Leif Hanson, “Preliminary neutron and X-ray crystallographic studies of equine

cyanomethemoglobin," *Acta Crystallographica Section F: Structural Biology and Crystallization Communications* 66(4), 474–477 (2010).

David Fox

Katherine S. Lovejoy, Alexander J. Lou, Lauren E. Davis, Timothy C. Sanchez, Srinivas Iyer, Cynthia A. Corley, John S. Wilkes, Russell K. Feller, David T. Fox, and Andrew T. Koppisch, et al., "Single-pot extraction-analysis of dyed wool fibers with ionic liquids," *Analytical Chemistry* 84(21), 9169–9175 (2012).

Katherine S. Lovejoy, Lauren E. Davis, Lisa M. McClellan, Antonietta M. Lillo, John D. Welsh, Emily N. Schmidt, Claire K. Sanders, Alexander J. Lou, David T. Fox, and Andrew T. Koppisch, et al., "Evaluation of ionic liquids on phototrophic microbes and their use in biofuel extraction and isolation," *Journal of Applied Phycology*, 1–9 (2012).

Paul Langan, S. Gnanakaran, Kirk D. Rector, Norma Pawley, David T. Fox, Dae Won Cho, and Kenneth E. Hammel, "Exploring new strategies for cellulosic biofuels production," *Energy and Environmental Science* 4(10), 3820–3833 (2011).

Kinya Hotta, Chu-Young Kim, David T. Fox, and Andrew T. Koppisch, "Siderophore-mediated iron acquisition in *Bacillus anthracis* and related strains," *Microbiology* 156(7), 1918–1925 (2010).

David T. Fox, Kinya Hotta, Chu-Young Kim, and Andrew T. Koppisch, "The missing link in petrobactin biosynthesis: asbF encodes a (-)-3-dehydroshikimate dehydratase," *Biochemistry* 47(47), 12251–12253 (2008).

Andrew T. Koppisch, Kinya Hotta, David T. Fox, Christy E. Ruggiero, Chu-Young Kim, Timothy Sanchez, Srinivas Iyer, Cindy C. Browder, Pat J. Unkefer, and Clifford J. Unkefer, "Biosynthesis of the 3,4-dihydroxybenzoate moieties of petrobactin by *Bacillus anthracis*," *Journal of Organic Chemistry* 73(15), 5759–5765 (2008).

Sandrasegaram Gnanakaran

Ilya Nemenman, S. Gnanakaran, William S Hlavacek, Yi Jiang, Brian Munsky, Michael E Wall, and James R Faeder, "The Fifth Annual q-bio Conference on Cellular Information Processing," *Physical Biology* 9(5) (2012).

Anurag Sethi, Jianhui Tian, Dung M. Vu, and S. Gnanakaran, "Identification of minimally interacting modules in an intrinsically disordered protein," *Biophysical Journal* 103(4), 748–757 (2012).

Giovanni Bellesia, Shishir P. S. Chundawat, Paul Langan, Antonio Redondo, Bruce E. Dale, and S. Gnanakaran, "Coarse-grained model for the interconversion between native and liquid ammonia-treated crystalline cellulose," *Journal of Physical Chemistry B* 116(28), 8031–8037 (2012).

Scott H. Brewer, Yuefeng Tang, Dung M. Vu, S. Gnanakaran, Daniel P. Raleigh, and R. Brian Dyer, "Temperature dependence of water interactions with the amide carbonyls of α -helices," *Biochemistry* 51(26), 5293–5299 (2012).

Jianhui Tian, Anurag Sethi, Divina Anunciado, Dung M. Vu, and S. Gnanakaran, "Characterization of a disordered protein during micellation: Interactions of α -Synuclein with Sodium Dodecyl Sulfate," *Journal of Physical Chemistry B* 116(15), 4417–4424 (2012).

Harshini Mukundan, Dominique N. Price, Matthew Goertz, Ramakrishnan Parthasarathi, Gabriel A. Montaño, Sandeep Kumar, Matthew R. Scholfield, Aaron S. Anderson, S. Gnanakaran, and Srinivas Iyer, et al., "Understanding the interaction of Lipoarabinomannan with membrane mimetic architectures," *Tuberculosis* 92(1), 38–47 (2012).

Andrea Asztalos, Marcus Daniels, Anurag Sethi, Tongye Shen, Paul Langan, Antonio Redondo, and Sandrasegaram Gnanakaran, "A coarse-grained model for synergistic action of multiple enzymes on cellulose," *Biotechnology for Biofuels* 5 (2012).

R. Parthasarathi, G. Bellesia, S.P.S. Chundawat, B.E. Dale, P. Langan, and S. Gnanakaran, "Insights into hydrogen bonding and stacking interactions in cellulose," *Journal of Physical Chemistry A* 115(49), 14191–14202 (2011).

R. Parthasarathi, Jianhui Tian, Antonio Redondo, and S. Gnanakaran, "Quantum chemical study of carbohydrate-phospholipid interactions," *Journal of Physical Chemistry A* 115(45), 12826–12840 (2011).

R. Parthasarathi, Raymond A. Romero, Antonio Redondo, and S. Gnanakaran, "Theoretical study of the remarkably diverse linkages in lignin," *Journal of Physical Chemistry Letters* 2(20), 2660–2666 (2011).

Anurag Sethi, Byron Goldstein, and S. Gnanakaran, "Quantifying intramolecular binding in multivalent interactions: A Structure-Based synergistic study on Grb2-Sos1 complex," *PLoS Computational Biology* 7(10) (2011).

Paul Langan, S. Gnanakaran, Kirk D. Rector, Norma Pawley, David T. Fox, Dae Won Cho, and Kenneth E. Hammel, "Exploring new strategies for cellulosic biofuels production," *Energy and Environmental Science* 4(10), 3820–3833 (2011).

Bette Korber and S. Gnanakaran, "Converging on an HIV vaccine," *Science* 333(6049), 1589–1590 (2011).

Haili Tang, James E. Robinson, S. Gnanakaran, Ming Li, Eric S. Rosenberg, Lautaro G. Perez, Barton F. Haynes, Hua-Xin Liao, Celia C. LaBranche, and Bette T. Korber, et al., "Epitopes immediately below the base of the V3 loop of gp120 as targets for the initial autologous neutralizing antibody response in two HIV-1 subtype B-infected individuals," *Journal of Virology* 85(18), 9286–9299 (2011).

S. Gnanakaran, Tanmoy Bhattacharya, Marcus Daniels, Brandon F. Keele, Peter T. Hraber, Alan S. Lapedes, Tongye Shen, Brian Gaschen, Mohan Krishnamoorthy, and Hui Li, et al., "Recurrent signature patterns in hiv-1 b clade envelope glycoproteins associated with either early or chronic infections," *PLoS Pathogens* 7(9) (2011).

Giovanni Bellesia, Shishir P. S. Chundawat, Paul Langan, Bruce E. Dale, and S. Gnanakaran, "Probing the early events associated with liquid ammonia pretreatment of native crystalline cellulose," *Journal of Physical Chemistry B* 115(32), 9782–9788 (2011).

Shishir P. S. Chundawat, Giovanni Bellesia, Nirmal Uppugundla, Leonardo Da Costa Sousa, Dahai Gao, Albert M. Cheh, Umesh P. Agarwal, Christopher M.

- Bianchetti, George N. Phillips Jr., and Paul Langan, et al., "Restructuring the crystalline cellulose hydrogen bond network enhances its depolymerization rate," *Journal of the American Chemical Society* 133(29), 11163–11174 (2011).
- Masahisa Wada, Yoshiharu Nishiyama, Giovanni Bellesia, Trevor Forsyth, S. Gnanakaran, and Paul Langan, "Neutron crystallographic and molecular dynamics studies of the structure of ammonia-cellulose I: Rearrangement of hydrogen bonding during the treatment of cellulose with ammonia," *Cellulose* 18(2), 191–206 (2011).
- Zhuoyun Zhuang, Andrew I. Jewett, Silvan Kuttimalai, Giovanni Bellesia, S. Gnanakaran, and Joan-Emma Shea, "Assisted peptide folding by surface pattern recognition," *Biophysical Journal* 100(5), 1306–1315 (2011).
- Jennifer L. Kirchherr, Jennifer Hamilton, Xiaozhi Lu, S. Gnanakaran, Mark Muldoon, Marcus Daniels, Webster Kasongo, Victor Chalwe, Chanda Mulenga, and Lawrence Mwananyanda, et al., "Identification of amino acid substitutions associated with neutralization phenotype in the human immunodeficiency virus type-1 subtype C gp120," *Virology* 409(2), 163–174 (2011).
- Rebecca M. Lynch, Rong Rong, Saikat Boliar, Anurag Sethi, Bing Li, Joseph Mulenga, Susan Allen, James E. Robinson, S. Gnanakaran, and Cynthia A. Derdeyn, "The B cell response is redundant and highly focused on V1V2 during early subtype C infection in a Zambian seroconverter," *Journal of Virology* 85(2), 905–915 (2011).
- Paul Langan, S. Gnanakaran, Barbara Evans, Andrey Kovalevsky, Zoe Fisher, Willian Heller, Hugh O'Neill, S.V. Pingali, Brian Davison, and Yoshiharu Nishiyama, et al., "Neutrons for biofuels," *ACS National Meeting Book of Abstracts* (2011).
- Giovanni Bellesia, Andrea Asztalos, Tongye Shen, Paul Langan, Antonio Redondo, and S. Gnanakaran, "In silico studies of crystalline cellulose and its degradation by enzymes," *Acta Crystallographica Section D: Biological Crystallography* 66(11), 1184–1188 (2010).
- S. Gnanakaran, Marcus G. Daniels, Tanmoy Bhattacharya, Alan S. Lapedes, Anurag Sethi, Ming Li; Haili Tang, Kelli Greene, Hongmei Gao, and Barton F. Haynes, et al., "Genetic signatures in the envelope glycoproteins of HIV-1 that associate with broadly neutralizing antibodies," *PLoS Computational Biology* 6(10) (2010).
- Dae Won Cho, Ramakrishnan Parthasarathi, Adam S. Pimentel, Gabriel D. Maestas, Hea Jung Park, Ung Chan Yoon, Debra Dunaway-Mariano, S. Gnanakaran, Paul Langan, and Patrick S. Mariano, "Nature and kinetic analysis of carbon-carbon bond fragmentation reactions of cation radicals derived from SET-oxidation of lignin model compounds," *Journal of Organic Chemistry* 75(19), 6549–6562 (2010).
- Rebecca M. Lynch, Rong Rong, Bing Li, Tongye Shen, William Honnen, Joseph Mulenga, Susan Allen, Abraham Pinter, S. Gnanakaran, and Cynthia A. Derdeyn, "Subtype-specific conservation of isoleucine 309 in the envelope V3 domain is linked to immune evasion in subtype C HIV-1 infection," *Virology* 404(1), 59–70 (2010).
- R. Rong, B. Li, R.E. Haaland, M.K. Murphy, J. Mulenga, S.A. Allen, J.L. Blackwell, A. Pinter, G.M. Shaw, and S. Gnanakaran, et al., "P09-12. Autologous neutralizing antibodies in early subtype C HIV-1 infection target variable

regions of envelope and drive multiple pathways of viral escape," *Retrovirology* 6(SUPPL. 3), P125 (2009).

P.L. Moore, N. Ranchobe, B. Lambson, E. Gray, K. Mlisana, S.A. Karim, C. Williamson, S. Gnanakaran, and L. Morris, "P09-04. Charge changes in the alpha2-helix in the C3 region of the HIV-1 subtype C envelope mediate neutralization escape," *Retrovirology* 6(SUPPL. 3), P117 (2009).

M.K. Murphy, R. Rong, B. Li, J. Mulenga, S.A. Allen, S. Gnanakaran, and C.A. Derdeyn, "P09-01. Mutation of the gp120 alpha2 helix in early subtype C HIV-1 infection fails to alter neutralization sensitivity or efficiency of in vitro replication," *Retrovirology* 6(SUPPL. 3), P114 (2009).

Shen Tongye, Paul Langan, Alfred D. French, Glenn P. Johnson, and S. Gnanakaran, "Conformational flexibility of soluble cellulose oligomers: Chain length and temperature dependence," *Journal of the American Chemical Society* 131(41), 14786–14794 (2009).

Bette Korber and S. Gnanakaran, "The implications of patterns in HIV diversity for neutralizing antibody induction and susceptibility," *Current Opinion in HIV and AIDS* 4(5), 408–417 (2009).

Rong Rong, Bing Li, Rebecca M. Lynch, Richard E. Haaland, Megan K. Murphy, Joseph Mulenga, Susan A. Allen, Abraham Pinter, George M. Shaw, and Eric Hunter, et al., "Escape from autologous neutralizing antibodies in acute/early subtype C HIV-1 infection requires multiple pathways," *PLoS Pathogens* 5(9) (2009).

Smita S. Kulkarni, Alan Lapedes, Haili Tang, S. Gnanakaran, Marcus G. Daniels, Ming Zhang, Tanmoy Bhattacharya, Ming Li, Victoria R. Polonis, and Francine E. McCutchan, et al., "Highly complex neutralization determinants on a monophyletic lineage of newly transmitted subtype C HIV-1 Env clones from India," *Virology* 385(2), 505–520 (2009).

Rebecca M. Lynch, Tongye Shen, S. Gnanakaran, and Cynthia A. Derdeyn, "Appreciating HIV type 1 diversity: Subtype differences in env," *AIDS Research and Human Retroviruses* 25(3), 237–248 (2009).

Tongye Shen and S. Gnanakaran, "The stability of cellulose: A statistical perspective from a coarse-grained model of hydrogen-bond networks," *Biophysical Journal* 96(8), 3032–3040 (2009).

John Gordon

Christopher R. Waidmann, Aaron W. Pierpont, Enrique R. Batista, John C. Gordon, Richard L. Martin, L.A. Pete Silks, Ryan M. West, and Ruilian Wu, "Functional group dependence of the acid catalyzed ring opening of biomass derived furan rings: An experimental and theoretical study," *Catalysis Science and Technology* 3(1), 106–115 (2013).

Tufan K. Mukhopadhyay, Russell K. Feller, Francisca N. Rein, Neil J. Henson, Nathan C. Smythe, Ryan J. Trovitch, and John C. Gordon, "Investigation of formally zerovalent Triphos iron complexes," *Chemical Communications* 48(69), 8670–8672 (2012).

R. Tom Baker, John C. Gordon, Charles W. Hamilton, Neil J. Henson, Po-Heng Lin, Steven Maguire, Muralee Murugesu, Brian L. Scott, and Nathan C. Smythe, "Iron complex-catalyzed ammonia-borane dehydrogenation. A potential route

toward B-N-containing polymer motifs using earth-abundant metal catalysts," *Journal of the American Chemical Society* 134(12), 5598–5609 (2012).

Kalyan V. Vasudevan, Nickolaus A. Smith, Brian L. Scott, Bryan L. Bennett, Ross E. Muenchhausen, and John C. Gordon, "Ionic liquid mediated routes to polydentate oxygen-donor adducts of cerium(iii) bromide," *Dalton Transactions* 41(7), 1924–1927 (2012).

Kalyan V. Vasudevan, Brian L. Scott, and John C. Gordon, "Main-group element compounds derived from the (1R,2R)-N,N'-bis (2-pyridylmethylene)cyclohexane-1,2-diamine (BPID) ligand," *Main Group Chemistry* 11(1), 45–52 (2012).

John Gordon, "Preface," *Main Group Chemistry* 11(1), 1–2 (2012).

Po-Heng Lin, Nathan C. Smythe, Serge I. Gorelsky, Steven Maguire, Neil J. Henson, Ilia Korobkov, Brian L. Scott, John C. Gordon, R. Tom Baker, and Muralee Murugesu, "Importance of out-of-state spin-orbit coupling for slow magnetic relaxation in mononuclear Fe II complexes," *Journal of the American Chemical Society* 133(40), 15806–15809 (2011).

Kalyan V. Vasudevan, Nickolaus A. Smith, Brian L. Scott, Edward A. McKigney, Michael W. Blair, John C. Gordon, and Ross E. Muenchhausen, "An ionic liquid-mediated route to cerium(III) bromide solvates," *Inorganic Chemistry* 50(10), 4627–4631 (2011).

Andrew D. Sutton, Anthony K. Burrell, David A. Dixon, Edward B. Garner III, John C. Gordon, Tessui Nakagawa, Kevin C. Ott, J. Pierce Robinson, and Monica Vasiliu, "Regeneration of ammonia borane spent fuel by direct reaction with hydrazine and liquid ammonia," *Science* 331(6023), 1426–1429 (2011).

Christopher R. Waidmann, Enrique R. Batista, John C. Gordon, Richard L. Martin, Aaron W. Pierpont, Louis A. Silks III, and Ruilian Wu, "Furan ring-opening of biomass-derived substrates," *ACS National Meeting Book of Abstracts* (2011).

Ruilian Wu, Pete Silks, John C. Gordon, Ryszard Michalczyk, and Cliff Unkefer, "Catalyzed conversion of non-food biomass to fuels and chemicals: Use of algal and carbohydrate feedstocks," *ACS National Meeting Book of Abstracts* (2011).

Aaron W. Pierpont, Enrique R. Batista, Weizhong Chen, John C. Gordon, Richard L. Martin, Ryszard Michalczyk, and Louis A. Silks III, "DFT studies of stereoselectivity in lanthanide-catalyzed acetal and ketal formation from biorenewable polyols," *ACS National Meeting Book of Abstracts* (2011).

Pete Silks, Jin Kyung Kim, Weizong Chen, Ruilian Wu, John C. Gordon, and Ryszard Michalczyk, "Use of carbohydrates and triglycerides for the production of fuels and chemical feedstocks," *ACS National Meeting Book of Abstracts* (2011).

Jason M. Keith, Enrique R. Batista, Richard L. Martin, Ruilian Wu, L. Pete Silks, and John C. Gordon, "Catalyzed conversion of non-food biomass to fuels: Probing the mechanism of the initial C - C bond forming step," *ACS National Meeting Book of Abstracts* (2011).

Susan K. Hanson, R. Tom Baker, John C. Gordon, Brian L. Scott, L. A. Pete Silks, and David L. Thorn, "Mechanism of alcohol oxidation by dipicolinate vanadium(V): Unexpected role of pyridine," *Journal of the American Chemical Society* 132(50), 17804–17816 (2010).

Bobby D. Ellis, Tonya M. Atkins, Yang Peng, Andrew D. Sutton, John C. Gordon, and Philip P. Power, "Synthesis and thermolytic behavior of tin(IV) formates: In search of recyclable metal-hydride systems," *Dalton Transactions* 39(44), 10659–10663 (2010).

John C. Gordon and Gregory J. Kubas, "Perspectives on how nature employs the principles of organometallic chemistry in dihydrogen activation in hydrogenases," *Organometallics* 29(21), 4682–4701 (2010).

Susan K. Hanson, R. Tom Baker, John C. Gordon, Brian L. Scott, and David L. Thorn, "Aerobic oxidation of lignin models using a base metal vanadium catalyst," *Inorganic Chemistry* 49(12), 5611–5618 (2010).

Benjamin L. Davis, Andrew D. Sutton, John C. Gordon, Daniel E. Schwarz, Brian L. Scott, and David L. Thorn, "Formation of benzodiazaborolanes from borazine," *Main Group Chemistry* 9(1–2), 135–139 (2010).

Andrew D. Sutton, Benjamin L. Davis, Koyel X. Bhattacharyya, Bobby D. Ellis, John C. Gordon, and Philip P. Power, "Recycle of tin thiolate compounds relevant to ammonia-borane regeneration," *Chemical Communications* 46(1), 148–149 (2010).

Nathan C. Smythe and John C. Gordon, "Ammonia borane as a hydrogen carrier: Dehydrogenation and regeneration," *European Journal of Inorganic Chemistry* 4, 509–521 (2010).

Benjamin L. Davis, David A. Dixon, Edward B. Garner, John C. Gordon, Myrna H. Matus, Brian Scott, and Frances H. Stephens, "Efficient regeneration of partially spent ammonia borane fuel" *Angewandte Chemie - International Edition* 48(37), 6812–6816 (2009).

Susan K. Hanson, R. Tom Baker, John C. Gordon, Brian L. Scott, Andrew D. Sutton, and David L. Thorn, "Aerobic oxidation of pinacol by vanadium(V) dipicolinate complexes: Evidence for reduction to vanadium(III)," *Journal of the American Chemical Society* 131(2), 428–429 (2009).

Andrew D. Sutton, Benjamin L. Davis, and John C. Gordon, "Regeneration of ammonia borane spent fuel," *ACS National Meeting Book of Abstracts* (2009).

R. Tom Baker, Benjamin L. Davis, John C. Gordon, Charles W. Hamilton, and Andrew D. Sutton, "Chemistries pertinent to the dehydrogenation and regeneration of ammonia borane spent fuel," *ACS National Meeting Book of Abstracts* (2009).

Susan Hanson

Guoqi Zhang, Brian L. Scott, and Susan K. Hanson, "Mild and homogeneous cobalt-catalyzed hydrogenation of C=C, C=O, and C=N bonds," *Angewandte Chemie - International Edition* 51(48), 12102–12106 (2012).

Bethany N. Wigington, Michael L. Drummond, Thomas R. Cundari, David L. Thorn, Susan K. Hanson, and Susannah L. Scott, "A biomimetic pathway for vanadium-catalyzed aerobic oxidation of alcohols: Evidence for a base-assisted dehydrogenation mechanism," *Chemistry - A European Journal* 18(47), 14981–14988 (2012).

Kalyan V. Vasudevan, Brian L. Scott, and Susan K. Hanson, "Alkene hydrogenation catalyzed by nickel hydride complexes of an aliphatic PNP pincer ligand," *European Journal of Inorganic Chemistry* 30, 4898–4906 (2012).

Marcel Lucas, Susan K. Hanson, Gregory L. Wagner, David B. Kimball, and Kirk D. Rector, "Evidence for room temperature delignification of wood using hydrogen peroxide and manganese acetate as a catalyst," *Bioresource Technology* 119, 174–180 (2012).

Guoqi Zhang, Brian L. Scott, Ruilian Wu, L. A. Pete Silks, and Susan K. Hanson, "Aerobic oxidation reactions catalyzed by vanadium complexes of bis(phenolate) ligands," *Inorganic Chemistry* 51(13), 7354–7361 (2012).

Susan K. Hanson, Ruilian Wu, and Louis A. Pete Silks, "C-C or C-O bond cleavage in a phenolic lignin model compound: Selectivity depends on vanadium catalyst," *Angewandte Chemie - International Edition* 51(14), 3410–3413 (2012).

Baburam Sedai, Christian Díaz-Urrutia, R. Tom Baker, Ruilian Wu, L. A. Pete Silks, and Susan K. Hanson, "Comparison of copper and vanadium homogeneous catalysts for aerobic oxidation of lignin models," *ACS Catalysis* 1(7), 794–804 (2011).

Susan K. Hanson, Ruilian Wu, and L. A. Pete Silks, "Mild and selective vanadium-catalyzed oxidation of benzylic, allylic, and propargylic alcohols using air," *Organic Letters* 13(8), 1908–1911 (2011).

Susan K. Hanson, Ruilian Wu, and L. A. Pete Silks, "Aerobic oxidation of lignin model complexes using homogeneous vanadium catalysts," *ACS National Meeting Book of Abstracts* (2011).

Susan K. Hanson, R. Tom Baker, John C. Gordon, Brian L. Scott, L. A. Pete Silks, and David L. Thorn, "Mechanism of alcohol oxidation by dipicolinate vanadium(V): Unexpected role of pyridine," *Journal of the American Chemical Society* 132(50), 17804–17816 (2010).

Susan K. Hanson, R. Tom Baker, John C. Gordon, Brian L. Scott, and David L. Thorn, "Aerobic oxidation of lignin models using a base metal vanadium catalyst," *Inorganic Chemistry* 49(12), 5611–5618 (2010).

Luc Boisvert, Melanie C. Denney, Susan Kloek Hanson, and Karen I. Goldberg, "Insertion of molecular oxygen into a palladium(II) methyl bond: A radical chain mechanism involving palladium(III) intermediates," *Journal of the American Chemical Society* 131(43), 15802–15814 (2009).

Wesley H. Bernskoetter, Susan Kloek Hanson, Sara K. Buzak, Zoe Davis, Peter S. White, Rodney Swartz, Karen I. Goldberg, and Maurice Brookhart, "Investigations of iridium-mediated reversible C-H bond cleavage: Characterization of a 16-electron iridium(III) methyl hydride complex," *Journal of the American Chemical Society* 131(24), 8603–8613 (2009).

Susan K. Hanson, R. Tom Baker, John C. Gordon, Brian L. Scott, Andrew D. Sutton, and David L. Thorn, "Aerobic oxidation of pinacol by vanadium(V) dipicolinate complexes: Evidence for reduction to vanadium(III)," *Journal of the American Chemical Society* 131(2), 428–429 (2009).

Susan Kloek Hanson, D. Michael Heinekey, and Karen I. Goldberg, "C-H bond activation by rhodium(I) phenoxide and acetate complexes: Mechanism of H-D exchange between arenes and water," *Organometallics* 27(7), 1454–1463 (2008).

Shannon Johnson

Shannon L. Johnson, Cheryl R. Kuske, Travis D. Carney, David C. Housman, La Verne Gallegos-Graves, and Jayne Belnap, "Increased temperature and altered summer precipitation have differential effects on biological soil crusts in a dryland ecosystem," *Global Change Biology* 18(8), 2583–2593 (2012).

Jeffrey B. Kaplan, Chienchi Lo, Gary Xie, Shannon L. Johnson, Patrick S. G. Chain, Robert Donnelly, Scott C. Kachlany, and Nataliya V. Balashova, "Genome sequence of *kingella kingae* septic arthritis isolate PYKK081," *Journal of Bacteriology* 194(11), 3017 (2012).

Nanette R. Boyle, Mark Dudley Page, Bensheng Liu, Ian K. Blaby, David Casero, Janette Kropat, Shawn J. Cokus, Anne Hong-Hermesdorf, Johnathan Shaw, and Steven J. Karpowicz, et al., "Three acyltransferases and nitrogen-responsive regulator are implicated in nitrogen starvation-induced triacylglycerol accumulation in *Chlamydomonas*," *Journal of Biological Chemistry* 287(19), 15811–15825 (2012).

Cheryl R. Kuske, Chris M. Yeager, Shannon Johnson, Lawrence O. Ticknor, and Jayne Belnap, "Response and resilience of soil biocrust bacterial communities to chronic physical disturbance in arid shrublands," *ISME Journal* 6(4), 886–897 (2012).

Shawn R. Starkenburg, Krista G. Reitenga, Tracey Freitas, Shannon Johnson, Patrick S. G. Chain, Ferran Garcia-Piche, and Cheryl R. Kuske, "Genome of the cyanobacterium *Microcoleus vaginatus* FGP-2, a photosynthetic ecosystem engineer of arid land soil biocrusts worldwide," *Journal of Bacteriology* 193(17), 4569–4570 (2011).

Henry S. Gibbons, Stacey M. Broomall, Lauren A. McNew, Hajnalka Daligault, Carol Chapman, David Bruce, Mark Karavis, Michael Krepps, Paul A. McGregor, and Charles Hong, et al., "Genomic signatures of strain selection and enhancement in *Bacillus atrophaeus* var. *globigii*, a historical biowarfare simulant," *PLoS ONE* 6(3) (2011).

Tanya Soule, Ian J. Anderson, Shannon L. Johnson, Scott T. Bates, and Ferran Garcia-Pichel, "Archaeal populations in biological soil crusts from arid lands in North America," *Soil Biology and Biochemistry* 41(10), 2069–2074 (2009).

Babs Marrone

Ye Ai and Babetta L. Marrone, "Droplet translocation by focused surface acoustic waves," *Microfluidics and Nanofluidics* 13(5), 715–722 (2012).

Yan Zheng, Lin Lin, Wei Hang, Xiaomei Yan, and Babetta L. Marrone, "Analysis of beryllium to biomolecule binding using a metal specific fluorescent probe and competitive assay," *Talanta* 85(1), 638–643 (2011).

J.M. Fair, n.M. Nemeth, K.J. Taylor-Mccabe, Y. Shou, and B.L. Marrone, "Clinical and acquired immunologic responses to west nile virus infection of domestic chickens (*Gallus gallus domesticus*)," *Poultry Science* 90(2), 328–336 (2011).

E. Hong-Geller, Y.E. Valdez, Y. Shou, T.M. Yoshida, B.L. Marrone, and J.M. Dunbar, "Evaluation of *Bacillus anthracis* and *Yersinia pestis* sample collection

from nonporous surfaces by quantitative real-time PCR," *Letters in Applied Microbiology* 50(4), 431–437 (2010).

Babette L. Marrone, "Flow Cytometry: A Multipurpose Technology for a Wide Spectrum of Global Biosecurity Applications," *JALA - Journal of the Association for Laboratory Automation* 14(3), 148–156 (2009).

Jeanne M. Fair, Kirsten J. Taylor-McCabe, Yulin Shou, and Babette L. Marrone, "Immunophenotyping of chicken peripheral blood lymphocyte subpopulations: Individual variability and repeatability," *Veterinary Immunology and Immunopathology* 125(3–4), 268–273 (2008).

Andrew T. Koppisch, Suraj Dhungana, Karen K. Hill, Hakim Boukhalfa, Henry S. Heine, Leslie A. Colip, Raymond B. Romero, Yulin Shou, Lawrence O. Ticknor, and Babette L. Marrone, et al., "Petrobactin is produced by both pathogenic and non-pathogenic isolates of the *Bacillus cereus* group of bacteria," *BioMetals* 21(5), 581–589 (2008).

Bruce Budowle, Steven E. Schutzer, Stephen A. Morse, Kenneth F. Martinez, Ranajit Chakraborty, Babette L. Marrone, Sharon L. Messenger, Randall S. Murch, Paul J. Jackson, and Phillip Williamson, et al., "Criteria for validation of methods in microbial forensics," *Applied and Environmental Microbiology* 74(18), 5599–5607 (2008).

Richard Sayre

Zoe Perrine, Sangeeta Negi, and Richard T. Sayre, "Optimization of photosynthetic light energy utilization by microalgae," *Algal Research* 1(2), 134–142 (2012).

Tawanda Zidenga, Elisa Leyva-Guerrero, Hangsik Moon, Dimuth Siritunga, and Richard Sayre, "Extending cassava root shelf life via reduction of reactive oxygen species production," *Plant Physiology* 159(4), 1396–1407 (2012).

José Olivares and Richard Sayre, "Editorial," *Algal Research* 1(1), 1 (2012).

Mark L. Failla, Chureeporn Chitchumroonchokchai, Dimuth Siritunga, Fabiana F. De Moura, Martin Fregene, Mark J. Manary, and Richard T. Sayre, "Retention during processing and bioaccessibility of β -carotene in high β -carotene transgenic cassava root," *Journal of Agricultural and Food Chemistry* 60(15), 3861–3866 (2012).

Elisa Leyva-Guerrero, Narayanan N. Narayanan, Uzoma Ihemere, and Richard T. Sayre, "Iron and protein biofortification of cassava: Lessons learned," *Current Opinion in Biotechnology* 23(2), 257–264 (2012).

K. Acharya, B. Neupane, V. Zazubovich, R.T. Sayre, R. Picorel, M. Seibert, and R. Jankowiak, "Site energies of active and inactive pheophytins in the reaction center of photosystem II from *chlamydomonas reinhardtii*," *Journal of Physical Chemistry B* 116(12), 3890–3899 (2012).

William J. Henley, R. Wayne Litaker, Lucie Novoveská, Clifford S. Duke, Hector D. Quemada, and Richard T. Sayre, "Initial risk assessment of genetically modified (GM) microalgae for commodity-scale biofuel cultivation," *Algal Research* (2012).

- M. Merkli, G.P. Berman, and R. Sayre, "Electron transfer reactions: generalized spin-boson approach," *Journal of Mathematical Chemistry*, 1–24 (2012).
- Sathish Rajamani, Max Teplitski, Anil Kumar, Cory J. Krediet, Richard T. Sayre, and Wolfgang D. Bauer, "N-Acyl homoserine lactone lactonase, aiia, inactivation of quorum-sensing agonists produced by *chlamydomonas reinhardtii* (Chlorophyta) and characterization of aiia transgenic algAE," *Journal of Phycology* 47(5), 1219–1227 (2011).
- Richard Sayre, John R. Beeching, Edgar B. Cahoon, Chiedozie Egesi, Claude Fauquet, John Fellman, Martin Fregene, Wilhelm Grussem, Sally Mallowa, and Mark Manary, et al., "The biocassava plus program: Biofortification of cassava for sub-Saharan Africa," *Annual Review of Plant Biology* 62, 251–272 (2011).
- Robert E. Blankenship, David M. Tiede, James Barber, Gary W. Brudvig, Graham Fleming, Maria Ghirardi, M.R. Gunner, Wolfgang Junge, David M. Kramer, and Anastasios Melis, et al., "Comparing photosynthetic and photovoltaic efficiencies and recognizing the potential for improvement," *Science* 332(6031), 805–809 (2011).
- Ziqi He, Surasak Siripornadulsil, Richard T. Sayre, Samuel J. Traina, and Linda K. Weavers, "Removal of mercury from sediment by ultrasound combined with biomass (transgenic *Chlamydomonas reinhardtii*)," *Chemosphere* 83(9), 1249–1254 (2011).
- Zoe Perrine and Richard Sayre, "Modulating the redox potential of the stable electron acceptor, Q B, in mutagenized photosystem II reaction centers," *Biochemistry* 50(9), 1454–1464 (2011).
- Sathish Rajamani and Richard T. Sayre, "A sensitive fluorescence reporter for monitoring quorum sensing regulated protease production in *Vibrio harveyi*," *Journal of Microbiological Methods* 84(2), 189–193 (2011).
- Sathish Rajamani and Richard Sayre, "FRET-based biosensors for the detection and quantification of AI-2 class of quorum sensing compounds," *Methods in Molecular Biology* 692, 31–46 (2011).
- Narayanan N. Narayanan, Uzoma Ihemere, Claire Ellery, and Richard T. Sayre, "Overexpression of hydroxynitrile lyase in cassava roots elevates protein and free amino acids while reducing residual cyanogen levels," *PLoS ONE* 6(7) (2011).
- Richard Sayre, "Microalgae: The potential for carbon capture," *BioScience* 60(9), 722–727 (2010).
- Richard Sayre, "Lab relocation roulette: it's your move," *Nature Biotechnology* 27(4), 313–315 (2009).
- Maria Gallo and Richard Sayre, "Removing allergens and reducing toxins from food crops," *Current Opinion in Biotechnology* 20(2), 191–196 (2009).
- Moacir A. Torres, Marcelo P. Barros, Sara C.G. Campos, Ernani Pinto, Sathish Rajamani, Richard T. Sayre, and Pio Colepicolo, "Biochemical biomarkers in algae and marine pollution: A review," *Ecotoxicology and Environmental Safety* 71(1), 1–15 (2008).
- Sathish Rajamani, Wolfgang D. Bauer, Jayne B. Robinson, John M. Farrow III, Everett C. Pesci, Max Teplitski, Mengsheng Gao, Richard T. Sayre, and Donald A. Phillips, "The vitamin riboflavin and its derivative lumichrome activate the LasR bacterial quorum-sensing receptor," *Molecular Plant-Microbe Interactions* 21(9), 1184–1192 (2008).

Pete Silks

Guoqi Zhang, Brian L. Scott, Ruilian Wu, L. A. Pete Silks, and Susan K. Hanson, "Aerobic oxidation reactions catalyzed by vanadium complexes of bis(phenolate) ligands," *Inorganic Chemistry* 51(13), 7354–7361 (2012).

Ruilian Wu, Siegfried N. Lodwig, Jurgen G. Schmidt, Robert F. Williams, and Louis A. Pete Silks, "Synthesis of ¹³C labeled sulfur and nitrogen mustard metabolites as mass spectrometry standards for monitoring and detecting chemical warfare agents," *Journal of Labelled Compounds and Radiopharmaceuticals* 55(6), 211–222 (2012).

Susan K. Hanson, Ruilian Wu, and Louis A. Pete Silks, "C-C or C-O bond cleavage in a phenolic lignin model compound: Selectivity depends on vanadium catalyst," *Angewandte Chemie - International Edition* 51(14), 3410–3413 (2012).

Kumkum Ganguly, Ruilian Wu, Morgane Ollivault-Shiflett, Peter M. Goodwin, Louis A. Silks III, and Rashi Iyer, "Design, synthesis, and a novel application of quorum-sensing agonists as potential drug-delivery vehicles," *Journal of Drug Targeting* 19(7), 528–539 (2011).

Baburam Sedai, Christian Díaz-Urrutia, R. Tom Baker, Ruilian Wu, L. A. Pete Silks, and Susan K. Hanson, "Comparison of copper and vanadium homogeneous catalysts for aerobic oxidation of lignin models," *ACS Catalysis* 1(7), 794–804 (2011).

Susan K. Hanson, Ruilian Wu, and L. A. Pete Silks, "Mild and selective vanadium-catalyzed oxidation of benzylic, allylic, and propargylic alcohols using air," *Organic Letters* 13(8), 1908–1911 (2011).

Susan K. Hanson, Ruilian Wu, and L. A. Pete Silks, "Aerobic oxidation of lignin model complexes using homogeneous vanadium catalysts," *ACS National Meeting Book of Abstracts* (2011).

Christopher R. Waidmann, Enrique R. Batista, John C. Gordon, Richard L. Martin, Aaron W. Pierpont, Louis A. Silks III, and Ruilian Wu, "Furan ring-opening of biomass-derived substrates," *ACS National Meeting Book of Abstracts* (2011).

Ruilian Wu, Pete Silks, John C. Gordon, Ryszard Michalczyk, and Cliff Unkefer, "Catalyzed conversion of non-food biomass to fuels and chemicals: Use of algal and carbohydrate feedstocks," *ACS National Meeting Book of Abstracts* (2011).

Aaron W. Pierpont, Enrique R. Batista, Weizhong Chen, John C. Gordon, Richard L. Martin, Ryszard Michalczyk, and Louis A. Silks III, "DFT studies of stereoselectivity in lanthanide-catalyzed acetal and ketal formation from biorenewable polyols," *ACS National Meeting Book of Abstracts* (2011).

Pete Silks, Jin Kyung Kim, Weizong Chen, Ruilian Wu, John C. Gordon, and Ryszard Michalczyk, "Use of carbohydrates and triglycerides for the production of fuels and chemical feedstocks," *ACS National Meeting Book of Abstracts* (2011).

Jason M. Keith, Enrique R. Batista, Richard L. Martin, Ruilian Wu, L. Pete Silks, and John C. Gordon, "Catalyzed conversion of non-food biomass to fuels: Probing the mechanism of the initial C - C bond forming step," *ACS National Meeting Book of Abstracts* (2011).

Susan K. Hanson, R. Tom Baker, John C. Gordon, Brian L. Scott, L. A. Pete Silks, and David L. Thorn, "Mechanism of alcohol oxidation by dipicolinate

vanadium(V): Unexpected role of pyridine," *Journal of the American Chemical Society* 132(50), 17804–17816 (2010).

Xiaoman Liu, Louis A. Silks, Cuiping Liu, Morgane Ollivault-Shiflett, Xin Huang, Jing Li, Guimin Luo, Ya-Ming Hou, Junqiu Liu, and Jiacong Shen, "Incorporation of tellurocysteine into glutathione transferase generates high glutathione peroxidase efficiency," *Angewandte Chemie - International Edition* 48(11), 2020–2023 (2009).

Louis A. Silks III, David B. Kimball, Duane Hatch, Morgane Ollivault-Shiflett, Ryszard Michalczyk, and Eddie Moody, "Chiral N-acetyl selone-promoted aldol reactions," *Synthetic Communications* 39(4), 641–653 (2009).

Shawn Starkenburg

Blaire Steven, La Verne Gallegos-Graves, Shawn R. Starkenburg, Patrick S. Chain, and Cheryl R. Kuske, "Targeted and shotgun metagenomic approaches provide different descriptions of dryland soil microbial communities in a manipulated field study," *Environmental Microbiology Reports* 4(2), 248–256 (2012).

Nicholas Beckloff, Shawn Starkenburg, Tracey Freitas, and Patrick Chain, "Bacterial genome annotation," *Methods in Molecular Biology* 881, 471–503 (2012).

Bin Hu, Gary Xie, Chien-Chi Lo, Shawn R. Starkenburg, and Patrick S. G. Chain, "Pathogen comparative genomics in the next-generation sequencing era: Genome alignments, pangenomics and metagenomics," *Briefings in Functional Genomics* 10(6), 322–333 (2011).

Shawn R. Starkenburg, Krista G. Reitenga, Tracey Freitas, Shannon Johnson, Patrick S. G. Chain, Ferran Garcia-Piche, and Cheryl R. Kuske, "Genome of the cyanobacterium *Microcoleus vaginatus* FGP-2, a photosynthetic ecosystem engineer of arid land soil biocrusts worldwide," *Journal of Bacteriology* 193(17), 4569–4570 (2011).

Patrick S.G. Chain, Gary Xie, Shawn R. Starkenburg, Matthew B. Scholz, Nicholas Beckloff, Chien-Chi Lo, Karen W. Davenport, Krista G. Reitenga, Hajnalka E. Daligault, and J. Chris Detter, et al., "Genomics for key players in the N cycle: From guinea pigs to the next frontier," *Methods in Enzymology* 496, 289–318 (2011).

Clifford J. Unkefer, Shawn R. Starkenburg, Scott N. Twary, Min S. Park, Patrick S. Chain, and Pat J. Unkefer, "The national alliance for advanced biofuels and bioproducts (NAABB)," *ACS National Meeting Book of Abstracts* (2011).

Shawn R. Starkenburg, Daniel J. Arp, and Peter J. Bottomley, "Expression of a putative nitrite reductase and the reversible inhibition of nitrite-dependent respiration by nitric oxide in *Nitrobacter winogradskyi* Nb-255," *Environmental Microbiology* 10(11), 3036–3042 (2008).

Maria A. Söderberg, Jenny Dao, Shawn R. Starkenburg, and Nicholas P. Cianciotto, "Importance of type II secretion for survival of *Legionella pneumophila* in tap water and in amoebae at low temperatures," *Applied and Environmental Microbiology* 74(17), 5583–5588 (2008).

Jeanette M. Norton, Martin G. Klotz, Lisa Y. Stein, Daniel J. Arp, Peter J. Bottomley, Patrick S. G. Chain, Loren J. Hauser, Miriam L. Land, Frank W. Larimer, and Maria W. Shin, et al., "Complete genome sequence of *Nitrosospira multiformis*, an ammonia-oxidizing bacterium from the soil environment," *Applied and Environmental Microbiology* 74(11), 3559–3572 (2008).

Shawn R. Starkenburg, Frank W. Larimer, Lisa Y. Stein, Martin G. Klotz, Patrick S. G. Chain, Luis A. Sayavedra-Soto, Amisha T. Poret-Peterson, Mira E. Gentry, Daniel J. Arp, and Bess Ward, et al., "Complete genome sequence of *Nitrobacter hamburgensis* X14 and comparative genomic analysis of species within the genus *Nitrobacter*," *Applied and Environmental Microbiology* 74(9), 2852–2863 (2008).

Shawn R. Starkenburg, Daniel J. Arp, and Peter J. Bottomley, "D-Lactate metabolism and the obligate requirement for CO₂ during growth on nitrite by the facultative lithoautotroph *Nitrobacter hamburgensis*," *Microbiology* 154(8), 2473–2481 (2008).

Jeri Sullivan

Enid J. Sullivan, Shaoping Chu, Philip H. Stauffer, Richard S. Middleton, and Rajesh J. Pawar, "A method and cost model for treatment of water extracted during geologic CO₂ storage," *International Journal of Greenhouse Gas Control* 12, 372–381 (2013).

Richard S. Middleton, Gordon N. Keating, Philip H. Stauffer, Amy B. Jordan, Hari S. Viswanathan, Qinjun J. Kang, J. William Carey, Marc L. Mulkey, Enid J. Sullivan, and Shaoping P. Chu, et al., "The cross-scale science of CO₂ capture and storage: From pore scale to regional scale," *Energy and Environmental Science* 5(6), 7328–7345 (2012).

Soondong Kwon, Enid J. Sullivan, Lynn E. Katz, Robert S. Bowman, and Kerry A. Kinney, "Laboratory and field evaluation of a pretreatment system for removing organics from produced water," *Water Environment Research* 83(9), 843–854 (2011).

Cynthia A. Dean, Enid J. Sullivan, Mei Ding, Jake Turin, and Paul Laur, "Chemistry of oil and gas produced water for algal biofuel production," ACS National Meeting Book of Abstracts (2011).

Soondong Kwon, E.J. Sullivan, Lynn Katz, Kerry Kinney, and Rob Bowman, "Pilot scale test of a produced water-treatment system for initial removal of organic compounds," *Proceedings - SPE Annual Technical Conference and Exhibition* 5, 3499–3515 (2008).

David Thorn

Bethany N. Wigington, Michael L. Drummond, Thomas R. Cundari, David L. Thorn, Susan K. Hanson, and Susannah L. Scott, "A biomimetic pathway for vanadium-catalyzed aerobic oxidation of alcohols: Evidence for a base-assisted dehydrogenation mechanism," *Chemistry - A European Journal* 18(47), 14981–14988 (2012).

Susan K. Hanson, R. Tom Baker, John C. Gordon, Brian L. Scott, L. A. Pete Silks, and David L. Thorn, "Mechanism of alcohol oxidation by dipicolinate

vanadium(V): Unexpected role of pyridine," Journal of the American Chemical Society 132(50), 17804–17816 (2010).

Susan K. Hanson, R. Tom Baker, John C. Gordon, Brian L. Scott, and David L. Thorn, "Aerobic oxidation of lignin models using a base metal vanadium catalyst," Inorganic Chemistry 49(12), 5611–5618 (2010).

Benjamin L. Davis, Andrew D. Sutton, John C. Gordon, Daniel E. Schwarz, Brian L. Scott, and David L. Thorn, "Formation of benzodiazaborolanes from borazine," Main Group Chemistry 9(1–2), 135–139 (2010).

Susan K. Hanson, R. Tom Baker, John C. Gordon, Brian L. Scott, Andrew D. Sutton, and David L. Thorn, "Aerobic oxidation of pinacol by vanadium(V) dipicolinate complexes: Evidence for reduction to vanadium(III)," Journal of the American Chemical Society 131(2), 428–429 (2009).

Alexander Z. Bradley, David L. Thorn, and Gerald V. Glover, "Efficient synthesis of alkyl β -diketimines," Journal of Organic Chemistry 73(21), 8673–8674 (2008).

Scott Twary

Clifford J. Unkefer, Shawn R. Starkenburg, Scott N. Twary, Min S. Park, Patrick S. Chain, and Pat J. Unkefer, "The national alliance for advanced biofuels and bioproducts (NAABB)," ACS National Meeting Book of Abstracts (2011).

Cliff Unkefer

Ricardo Mart-Arbona, Munehiro Teshima, Penelope S. Anderson, Kristy L. Nowak-Lovato, Elizabeth Hong-Geller, Clifford J. Unkefer, and Pat J. Unkefer, "Identification of new ligands for the methionine biosynthesis transcriptional regulator (MetJ) by FAC-MS," Journal of Molecular Microbiology and Biotechnology 22(4), 205–214 (2012).

Clifford J. Unkefer and Rodolfo A. Martinez, "The use of stable isotope labelling for the analytical chemistry of drugs," Drug Testing and Analysis 4(3–4), 303–307 (2012).

Fangping Mu, Clifford J. Unkefer, Pat J. Unkefer, and William S. Hlavacek, "Prediction of metabolic reactions based on atomic and molecular properties of small-molecule compounds," Bioinformatics 27(11), 1537–1545 (2011).

Clifford J. Unkefer, Shawn R. Starkenburg, Scott N. Twary, Min S. Park, Patrick S. Chain, and Pat J. Unkefer, "The national alliance for advanced biofuels and bioproducts (NAABB)," ACS National Meeting Book of Abstracts (2011).

Ruilian Wu, Pete Silks, John C. Gordon, Ryszard Michalczyk, and Cliff Unkefer, "Catalyzed conversion of non-food biomass to fuels and chemicals: Use of algal and carbohydrate feedstocks," ACS National Meeting Book of Abstracts (2011).

Andrew T. Koppisch, Kinya Hotta, David T. Fox, Christy E. Ruggiero, Chu-Young Kim, Timothy Sanchez, Srinivas Iyer, Cindy C. Browder, Pat J. Unkefer, and Clifford J. Unkefer, "Biosynthesis of the 3,4-dihydroxybenzoate moieties of petrobactin by *Bacillus anthracis*," Journal of Organic Chemistry 73(15), 5759–5765 (2008).

Paul Langan, Zo Fisher, Andrii Kovalevsky, Marat Mustyakimov, Amanda Sutcliffe Valone, Cliff Unkefer, Mary Jo Waltman, Leighton Coates, Paul D.

Adams, and Pavel V. Afonine, et al., "Protein structures by spallation neutron crystallography," *Journal of Synchrotron Radiation* 15(3), 215–218 (2008).

Tomoya Fujiwara, Masaru Segawa, Hidehito Fujisawa, Taiki Murai, Tamiko Takahashi, Kenji Omata, Kuninobu Kabuto, Siegfried N. Lodwig, and Clifford J. Unkefer, et al., "Reliable assignment of absolute configuration of chiral amines based on the analysis of ¹H NMR spectra of their CFTA amide diastereomers," *Tetrahedron Asymmetry* 19(7), 847–856 (2008).

Pat Unkefer

Ricardo Mart-Arbona, Munehiro Teshima, Penelope S. Anderson, Kristy L. Nowak-Lovato, Elizabeth Hong-Geller, Clifford J. Unkefer, and Pat J. Unkefer, "Identification of new ligands for the methionine biosynthesis transcriptional regulator (MetJ) by FAC-MS," *Journal of Molecular Microbiology and Biotechnology* 22(4), 205–214 (2012).

Tuhin Subhra Maity, Devin W. Close, Yolanda E. Valdez, Kristy Nowak-Lovato, Ricardo Marti-Arbona, Tinh T. Nguyen, Pat J. Unkefer, Elizabeth Hong-Geller, Andrew R. M. Bradbury, and John Dunbar, "Discovery of DNA operators for TetR and MarR family transcription factors from *Burkholderia xenovorans*," *Microbiology* 158(2), 571–582 (2012).

Fangping Mu, Clifford J. Unkefer, Pat J. Unkefer, and William S. Hlavacek, "Prediction of metabolic reactions based on atomic and molecular properties of small-molecule compounds," *Bioinformatics* 27(11), 1537–1545 (2011).

Clifford J. Unkefer, Shawn R. Starkenburg, Scott N. Twary, Min S. Park, Patrick S. Chain, and Pat J. Unkefer, "The national alliance for advanced biofuels and bioproducts (NAABB)," *ACS National Meeting Book of Abstracts* (2011).

Amy L. Bauer, William S. Hlavacek, Pat J. Unkefer, and Fangping Mu, "Using sequence-specific chemical and structural properties of DNA to predict transcription factor binding sites," *PLoS Computational Biology* 6(11) (2010).

Andrew T. Koppisch, Kinya Hotta, David T. Fox, Christy E. Ruggiero, Chu-Young Kim, Timothy Sanchez, Srinivas Iyer, Cindy C. Browder, Pat J. Unkefer, and Clifford J. Unkefer, "Biosynthesis of the 3,4-dihydroxybenzoate moieties of petrobactin by *Bacillus anthracis*," *Journal of Organic Chemistry* 73(15), 5759–5765 (2008).

Geoff Waldo

Wen Wei, Leonie Lampe, Sungha Park, Bhavana S. Vangara, Geoffrey S. Waldo, Stephanie Cabantous, Sarah S. Subaran, Dongmei Yang, Edward G. Lakatta, and Li Lin, "Disulfide Bonds within the C2 Domain of RAGE Play Key Roles in Its Dimerization and Biogenesis," *PLoS ONE* 7(12) (2012).

Anu Chaudhary, Kumkum Ganguly, Stéphanie Cabantous, Geoffrey S. Waldo, Sofiya N. Micheva-Viteva, Kamalika Nag, William S. Hlavacek, and Chang-Shung Tung, "The Brucella TIR-like protein TcpB interacts with the death domain of MyD88," *Biochemical and Biophysical Research Communications* 417(1), 299–304 (2012).

Fortunato Ferrara, Paweł Listwan, Geoffrey S. Waldo, and Andrew R. M. Bradbury, "Fluorescent labeling of antibody fragments using split GFP," PLoS ONE 6(10) (2011).

Jean-Denis Pédelacq, Hau B. Nguyen, Stéphanie Cabantous, Brian L. Mark, Paweł Listwan, Carolyn Bell, Natasha Friedland, Meghan Lockard, Alexandre Faille, and Lionel Mourey, et al., "Experimental mapping of soluble protein domains using a hierarchical approach," Nucleic Acids Research 39(18), e125 (2011).

Meghan A. Lockard, Paweł Listwan, Jean-Denis Pédelacq, Stéphanie Cabantous, Hau B. Nguyen, Thomas C. Terwilliger, and Geoffrey S. Waldo, "A high-throughput immobilized bead screen for stable proteins and multi-protein complexes," Protein Engineering, Design and Selection 24(7), 565–578 (2011).

Tiziano Gaiotto, Hau B. Nguyen, Jaemyeong Jung, Gnana S. Gnanakaran, Jurgen G. Schmidt, Geoffrey S. Waldo, Andrew M. Bradbury, and Peter M. Goodwin, "A photophysical study of two fluorogen-activating proteins bound to their cognate fluorogens," Progress in Biomedical Optics and Imaging - Proceedings of SPIE 2011 7905 (2011).

Wanjoo Chun, Geoffrey S. Waldo, and Gail V. W. Johnson, "Split GFP complementation assay for quantitative measurement of tau aggregation in situ," Methods in Molecular Biology 670, 109–123 (2011).

Lara Kaddoum, Eddy Magdeleine, Geoffrey S. Waldo, Etienne Joly, and Stéphanie Cabantous, "One-step split GFP staining for sensitive protein detection and localization in mammalian cells," BioTechniques 49(4), 727–736 (2010).

Paweł Listwan, Jean-Denis Pédelacq, Meghan Lockard, Carolyn Bell, Thomas C. Terwilliger, and Geoffrey S. Waldo, "The optimization of in vitro high-throughput chemical lysis of Escherichia coli. Application to ACP domain of the polyketide synthase ppsC from Mycobacterium tuberculosis," Journal of Structural and Functional Genomics 11(1), 41–49 (2010).

Csaba Kiss, Jamshid Temirov, Leslie Chasteen, Geoffrey S. Waldo, and Andrew R.M. Bradbury, "Directed evolution of an extremely stable fluorescent protein," Protein Engineering, Design and Selection 22(5), 313–323 (2009).

Paweł Listwan, Thomas C. Terwilliger, and Geoffrey S. Waldo, "Automated, high-throughput platform for protein solubility screening using a split-GFP system," Journal of Structural and Functional Genomics 10(1), 47–55 (2009).

Stéphanie Cabantous, Yvonne Rogers, Thomas C. Terwilliger, and Geoffrey S. Waldo, "New molecular reporters for rapid protein folding assays," PLoS ONE 3(6) (2008).

Felipe Cava, Miguel Angel De Pedro, Emilio Blas-Galindo, Geoffrey S. Waldo, Lars F. Westblade, and José Berenguer, "Expression and use of superfolder green fluorescent protein at high temperatures in vivo: A tool to study extreme thermophile biology," Environmental Microbiology 10(3), 605–613 (2008).

Susanne Gräslund, Pär Nordlund, Johan Weigelt, B. Martin Hallberg, James Bray, Opher Gileadi, Stefan Knapp, Udo Oppermann, Cheryl Arrowsmith, and Raymond Hui, et al., "Protein production and purification," Nature Methods 5(2), 135–146 (2008).

Kyoung Hoon Kim, Jin Kuk Yang, Geoffrey S. Waldo, Thomas C. Terwilliger, and Se Won Suh, "From no expression to high-level soluble expression in

Escherichia coli by screening a library of the target proteins with randomized N-termini," Methods in Molecular Biology 426, 187–195 (2008).

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